SYNOPSIS OF THE Ph.D. THESIS

TITLE OF THE THESIS

PROFESSIONAL ATTITUDES OF LIBRARIANS TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY: A SURVEY OF ENGINEERING COLLEGE LIBRARIES IN NORTH COASTAL ANDHRA PRADESH

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Introduction

Change is one reality with which individuals, groups and organizations must constantly cope in order to survive. The needs for progressive changes in people's attitudes and behaviors are essential for global acceptance. Nevertheless for Library and Information Science (LIS) professionals, a change is often linked with modern information technologies and management issues. Over the past few decades, the nature of library environment and mode of service has changed drastically.

A library is a collection of sources, resources, services, and the structure in which it is housed; it is organized for use and maintained by a public body, an institution or a private individual. In the more traditional sense, a library is a collection of books. It can mean the collection, the building or room that houses such a collection or both. The term "library" has itself acquired a secondary meaning: "a collection of useful material for common use," and in this sense is used in fields such as computer science, mathematics, statistics, electronics and biology.

Origin and Development of Engineering Education in India

In India first technical education was in the form of survey school and it was around 1794.Later diploma programmes were started in 20^{th} century. The first engineering college was started at Roorkee in 1847, this was Thomson college of engineering. After that three engineering colleges were started in three presidencies at Madras, Calcutta and Bombay. The Bengal Engineering College was started in 1856 at Calcutta. An overseers school was started at Pune, this school eventually become the Pune Engineering College. In Madras an industrial school was attached to gun carriage factory and it ultimately took shape as an engineering college. In 1915 Indian Institute of Science was started at Bangalore which has offered both science and engineering courses. The first bachelor degree programmes were in mechanical and electrical engineering in 1917 at Banaras Hindu University. In India, before Independence there were 38 institutions with an intake of 3670 at the diploma level. Today in India there are 4950

technical institutions at degree level with an intake of (24, 75,000.) twenty four lakhs seventy five thousand student's respectively.

All India Council for Technical Education (AICTE)

The All India Council for Technical Education (AICTE) is the statutory body and a National-level council for technical education, under the department of Higher Education, Ministry of Human Resource Development. Established in November, 1945 first as an advisory body and later on in 1987 it has given statutory status by an Act of Parliament. AICTE is responsible for proper planning and co-ordinate development of the technical education and management education system in India.

ENGINEERING COLLEGES IN ANDHRA PRADESH

The state of Andhra Pradesh is imparting engineering/technical education to over 2,50,000 students through 711 engineering colleges. Except, Indian Institute of Technology (IIT), all other institutions mentioned in the structure of technical education have been existing in Andhra Pradesh.

Functions of Engineering College Libraries

Bearing in mind, external factors and consolidation organization has to seek to achieve the aims and objectives of the library. First, the library is the heart of education, every education advance depends upon its resources and in larger measure the degree of advance is appropriate to the potential of the library to respond.

Secondly, methods and fashions in education change from generation to generation. But each generation uses the library as a means of realizing its aims. Hence the library remains a great conservator of learning. An investment in a library is a permanent investment. The library is too essential to the maintenance of ideas and to the centralized functioning and thus, the library is the hub if there is free access educational activity in a college. It is the heart of the college. A library work is not a job but a sacred trust. It is a laboratory of humanities. A college library is a reading center for breasting and enjoying books. Without good library, there can be no good college. Books in

college library are dead unless they are used. The total educational process in the college must be library oriented.

INFORMATION TECHNOLOGY & LIBRARY AUTOMATION

Information and Communication Technology (ICT) has enormously increased the capabilities of library services, creating options for networking to provide access to vast stores of electronic information, for more sophisticated library housekeeping systems and for greater bibliographic access through services. However, technology can also create further pressures and drains on a library's resources simultaneous for delivering a vastly advanced service. Problems of obsolescence and compatibility of hardware and software can be costly and the demands for training, both of staff and library users are great.

Information technology presents both new opportunities and challenges before the library profession as it creates new possibilities for the development of new products and delivery of services. It has also changed the basic assumptions about organizational structure, working relationships and the quality of library services. Some of the characteristics of the current and emerging information environment in which libraries have now to function include greater complexity in locating, analyzing and linking information, sustained financial investment for technology, lack of standardization of both hardware and software. The new information environment requires that librarian's role should be characterized by increased visibility and vitality. Librarians need to be well integrated into the activities of their institutions and the community they serve.

LIBRARIAN – PROFESSION – ATTITUDE

The library must have a trained and qualified librarian and the librarian should have attitudes like, love for books serving the readers etc. One of the responsibilities of the librarian is to understand the behavioral pattern of the user; so that he can adopt an appropriate approach to help them fruitfully. The librarian has an overall responsibility for proper functioning of the library

The Role of Librarian: The main role of the librarian is to help students to learn when they are away from their teachers through creating a learning environment. The idea is to establish conditions conducive for learning and to maximize the utilization of available materials.

Attitudes of the Librarian: The fundamental Attitude of the Librarian

- The foundation of a librarian's work lies in pursuit of his duties in accordance with the known expectations of society in general and the needs of the users of his library in particular.

Responsibility for users of the library:

- A librarian should not discriminate between or against library users.
- A librarian should respect the confidentiality of each library user.

Responsibility for Library Materials:

- A librarian should make it his professional aim to familiarize himself, as far as possible, both in and out of his library, with the materials recording human knowledge and experiences.

Responsibility in Training:

- A librarian should apply himself to necessary professional training, both as an individual and as a member of a group.

SIGNIFICANCE OF THE PRESENT STUDY

The development of Engineering College situation in Andhra Pradesh creates lot of interest among the young students in this region with the emergence of large number of corporate colleges. The strength and standards of the Engineering colleges and services provided by the libraries attached to these colleges are the area of interest at present.

The libraries attached to the Engineering colleges are intended to serve the academic staff and students at the graduate level and play an important role in teaching

and career development of the students. The resources of these libraries must be adequately developed and efficiently organized to ensure their maximum utilization. The dissemination of information through a variety of services based on the particular needs or requirements of the users should be the main objective of the libraries.

In this background, the present study has been taken up with the main objective of studying the professional attitudes of librarians towards Information and Communication Technology in Engineering College Libraries located in the 3 north coastal districts of Andhra Pradesh.

ORGANIZATION OF THE THESIS:

The present thesis is organized into 5 chapters as detailed below:

Chapter – 1: INTRODUCTION

An introduction on the Library, types of libraries with emphasis on academic libraries, development of Engineering Colleges along with significance of the present study are presented in this chapter.

Chapter – 2: STUDY DESIGN & METHODOLOGY; REVIEW OF LITERATURE

Study design comprising of sampling procedure, methodology adopted, research tools used etc. along with a review of earlier relevant studies is detailed in this chapter

Chapter –3: ICT AND ITS IMPACT ON LIBRARIES AND LIBRARY PROFESSIONALS

This chapter presents a detailed note on the concept of ICT, different means of ICT, impact of ICT on library, library activities and professionals working in the new technological environment.

Chapter – 4: OBSERVATIONS OF THE PRESENT STUDY

This chapter comprises of a discussion made on the observations made from the study. Data gathered is analysed, tabulated and supplemented with graphical presentations.

Chapter – 5: SUMMARY & CONCLUSIONS

Summary of the report along with major findings and implications of the study are included in this chapter.

STUDY DESIGN & METHODOLOGY, REVIEW OF LITERATURE

Attitudes have been used to represent perceptions of library staff on the value attached to IT in libraries - technical processing, collection organization and user services. It represents the conceptual value of these technologies in the minds of the library staff, not the values of these technologies. The study of attitude in general begins with a decision between two competing theories about the nature of attitude as a state of readiness, intervening variable between a stimulus affecting a person and that person's response. In other words, a person attitude prepares him to react to a given stimulus in one way rather than in another.

OBJECTIVES OF THE STUDY: The following are the main objectives of the present study:

1. To understand the Information Communication technology and network infrastructure available in the engineering colleges located in the north coastal districts of Andhra Pradesh

2. To understand the levels of knowledge and use of the library professionals on various aspects of IT like computer technology, network infrastructure, communication media technology, audio-video technology, printing and publication technology and electronic resources

3. To identify the training needs of these library professionals in the area of Information Communication Technology
4. To understand the opinion and attitude of library professionals towards IT and related aspects
5. To examine the differentials in the opinions and attitudes of the library professionals with regard to some selected aspects of IT, by selected background variables
6. To find out the difference in the opinion and attitude of professionals working in NBA accredited and non-accredited engineering college libraries
7. To find out the difference in the knowledge, use, opinion and attitude of professionals working in engineering college libraries located in the three districts.

HYPOTHESES: The following are the hypotheses formulated in the present study:

1. There are differences in the availability of IC technology and network infrastructure in the engineering colleges among the three districts.
2. There are differences in the availability of IC technology and network infrastructure in the NBA accredited and non-accredited engineering colleges.
3. The attitude and opinion of the library professionals vary among the males and females
4. The attitude and opinion of the library professionals vary with the age group

STUDY DESIGN: The objective of the present study is to bring out the differences in the level of knowledge and use and opinion and attitude of library professionals working in the engineering colleges located in the north coastal districts of Andhra Pradesh towards the much needed Information Technology. Accordingly, the study is designed to be narrative with a clear comparison of the different aspects of study in the light of location, accreditation of the college, age and sex of the library professionals etc.

Methodology: In order to elicit the needed information for the present study, it is decided to employ the most popular survey method. In the present study, it is decided that a

complete coverage of library professionals will be done in a sample of engineering colleges from selected districts in Andhra Pradesh. And the respondents covered will be - all the library professionals (Librarians, Assistant Librarians and Library Assistants) currently working in all the engineering colleges selected for the study.

Sampling Procedure: Before picking up sample for the study, a list of all engineering colleges in Andhra Pradesh is obtained. As per the official list of engineering colleges in Andhra Pradesh (2011-2012), there were 711 colleges. As already mentioned, these colleges are of two types – University Colleges and Private colleges.

Research Tools: In Social Science research surveys, the questionnaire method is widely used for data collection. In the present study also, this most popular and widely used 'Questionnaire method' is employed for eliciting the needed information. Keeping in mind the objectives of the study a questionnaire has been designed covering all aspects of the study. This questionnaire has been pre-tested and modifications were incorporated basing on the pre-test experience. The final questionnaires were used for data collection.

The researcher has personally visited all the 57 college libraries selected for the study and recorded the needed information.

Analysis: Data thus obtained were entered into a personal computer and were analysed using SPSS 15.0 v software. The study is designed to be mainly narrative or descriptive and this does not require elaborate statistical treatment of the data.

The analysis is mainly focused on bringing out comparison between the three districts, accredited and non-accredited colleges, gender and age of the professional. The comparisons are made mostly by frequencies expressed in terms of percentages and where ever required chi-square and t- tests are applied.

Major findings : Before the year 2001, the number of engineering colleges in this part of the state is 8 and growth of private engineering colleges attained pace after 2000 and 49 more colleges were added during the decade 2001-2010. Though the trend is similar, the number of colleges established in Visakhapatnam district is more compared to the other

two districts because of obvious reasons. Out of the total 57 colleges, only 11 (19.3 percent) have been accredited by the NBA.

Technology Available At Work Place

Computer Technology: Out of the 57 libraries covered in the study, 55 librarians (97 percent) reported that LAN facility is available in their college campuses. All the NBA accredited colleges are having LAN facility in their college campuses.

Nature of Infrastructure: On the whole, 44 out of the 57 libraries (77 percent) reported that they are having enough internet speed, 53 libraries (93 percent) reported availability of a server for organizing e-resources and 52 libraries (91 percent) reported adequate number of PCs for the students. Among the NBA accredited college libraries, in 8 libraries, the internet speed and number of PCs are reported to be enough and all 11 libraries have reported availability of a server for organizing e-resources

Communication Media Technology: Fifty-four out of the 57 libraries (95 percent) have reported membership in one or more educational networks. Most of the libraries (93 percent) have membership in AICTE network. All the 11 NBA accredited college libraries have membership in such network.

Audio Video Technology: Audio Video Technology facilities are available in 53 out of the total 57 libraries (93 percent) and not reported in 4 libraries. Ten out of the 11 NBA accredited colleges have reported facilities for using A V Technology in their libraries.

Knowledge and Use of ICT : All the 116 respondents reported knowledge of computers and 97 are aware of different types of computers. About 98 percent have reported use of computers. Knowledge of writing computer programmes is reported by 78 percent while 70 percent have reported using this ability. About 89 percent are aware of Library Software Packages and 87 percent of them have reported that they have used library software packages.

Knowledge & Use of Communication Media Technology: Most of the respondents (97 percent) are aware of the concept of communication and 89 percent know about the different means of communication. Knowledge of ‘Browsers’ is reported by 92 percent,

knowledge of ‘Search Engines’ by 88 percent, ‘Bar Code’ by 84 percent and knowledge of ‘Digital / Virtual Library’ by 75 percent.

Knowledge & Use of Audio Video Technology: About 92 percent of the respondents reported the knowledge of audio video technology while 87 percent of them have reported use of the same. Knowledge about the different means of audio video technology is reported by 81 percent and 78 percent have used them. Knowledge about LCD is reported by 87 percent while 84 percent of them have reported use of LCD. Seventy-three percent are aware of Overhead Projector (OHP) while 70 percent have used the OHP earlier.

Knowledge & Use of Electronic Resources: It is welcoming to note that all the 116 respondents covered in the present study are aware of the Electronic Publishing and all of them are having knowledge of e-books, e-journals and e-magazines and 95 to 98 percent of them have used them also. Knowledge about e-audio/video lectures is reported by 92 percent and use of the same by 85 percent. Eighty percent know about e-databases while 79 percent of them have used them. About 72 percent know about the institutional repositories while 66 percent of them reported use of the same. Knowledge of open sources is reported by 72 percent while use of open sources is reported by 70 percent.

Knowledge & Use of Computer Printing Technology : In all, 96 percent of the respondents covered in the present study are aware of the Computer Printing Technology. Almost all (99 percent) of them know about computer printers and used them. Knowledge of Desk Top Printing (DTP) is reported by 88 percent while 85 percent of them reported use of the same. Seventy two percent know about Page Maker while 71 percent of them have used it. Knowledge of Photocopying Machine is reported by about 85 percent while 81 percent have used the machine.

Attitude towards and Opinion on Computer Technology: It is quite interesting to observe that only 40 out of the 116 respondents (34 percent) are in favour of complete automation of the library and the remaining 76 (66 percent) did not prefer complete automation of the library. Before considering the observations below, the small numbers in certain categories considered in cross tabulation should be kept in mind.

Opinion / Agreement with selected statements related to Computer Technology: It is to be mentioned here that more than 80 percent of the respondents have reported their agreement with the listed statements relating to computer technology.

Opinion / Agreement with selected statements related to Communication Media Technology: It is to be mentioned here that more than 84 percent of the respondents have reported their agreement with the listed statements relating to communication media technology.

Opinion / Agreement with selected statements related to Audio Video Technology: In all, about 83 percent of the respondents reported that knowledge of audio video technology is useful for the library professionals, while 14 percent felt that it is not useful. The remaining 3 percent could not say either way.

Opinion / Agreement with selected statements related to Use of electronic resources: About 99 percent of the respondents agreed that E- Resources are time saving in getting needed information. An equal proportion also stated that use of e-resources is not easy and it requires different skills. All the 116 respondents have agreed that more information is available through electronic resources.

Opinion / Agreement with selected statements related to Computer Printing Technology: The proportion of respondents who agree that the knowledge is necessary is 100 percent in Srikakulam, 93 percent in Vizianagaram and 81 in Visakhapatnam districts. The chi-square value indicates significant difference among the three districts with regard to these responses

Opinion on the Need for Printing Technology in library housekeeping activities by Background Variables: In all, 94 percent of the respondents agree that printing technology is necessary for the library housekeeping activities while the remaining 6 percent felt that it is not necessary.

SUGGESTIONS FOR IMPROVEMENT:

1. Since academic and Professional qualifications of the library professionals are promising, they should be encouraged to attend in-service training programs particularly on computers and related areas.
2. Most of the respondents expressed their knowledge and use of different components of computer technology. It is suggested that they should be encouraged to improve they skills and knowledge on computers and related areas further by attending short term and long term training programmes.
3. The knowledge and use of different components of communication media technology is promising except on voice mail and teleconference. It is suggested to have E-Resources to make them available to users.
4. The knowledge on E-Resources of the respondents is promising and encourages to go for E-Resources to meet the information requirements of users. It is suggested that the library should give importance to E- Resources in the collection development.
5. It is suggested that the professionals in engineering college libraries be encouraged to participate in in-service training program on library networks to update their knowledge and skills in order to offer information services to the expectations of users.
6. It is suggested to give further training on E-Journals, E-Books ect., and computer printing technology. It would help to serve the users better.
7. It is suggested that the professionals be encouraged for advanced training in the areas of communication technology further.
8. It is suggested to encourage the library professionals by giving reasonable priority for long term training programs.
9. It is suggested that professionals be encouraged to train themselves in library automation.